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(54) **Carbonylation of olefins.**

(57) The invention relates to a process for the mon-ocarbonylation of optionally substituted olefinically unsaturated compounds by reaction with carbon monoxide and a coreactant in the presence of a catalyst system comprising:

- a) a source of palladium cations,
 - b) a source of bidentate diphosphine, and
 - c) a source of anions,
- characterized in that the diphosphine is selected from the group of diphosphines of formula I,



wherein R¹, R², R³ and R⁴ independently represent an optionally substituted aliphatic group, or R¹ and R² together and/or R³ and R⁴ together represent an optionally substituted bivalent aliphatic group, and X represents a bivalent bridging group containing from 1 to 10 atoms in the bridge, to produce various carbonyl compounds including aldehydes, ketones, esters, and amides. The invention also relates to certain catalyst systems useful in this reaction.

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EUROPEAN SEARCH REPORT

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EP 92 20 0058

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X	EP-A-0 227 160 (SHELL) * Column 3, lines 31-34; claims 1-7,10-15 * ---	1-7,15-18,25,26,30	C 07 C 51/14 C 07 C 67/38 C 07 C 45/50
A	EP-A-0 406 848 (YEDA RESEARCH) * Claims 1-4 * ---	1-5	
A	US-A-3 168 553 (SLAUGH) * Column 2, lines 26-44; column 3, lines 34-42; column 4, lines 38-74; claim 1 * -----	1-5	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			C 07 C 51/00 C 07 C 67/00 C 07 C 45/00
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 13-11-1992	Examiner KLAG M.J.
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	